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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,399	03/03/2000	Israel Daniel Sultan		7363

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EXAMINER
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ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/518,399	SULTAN, ISRAEL DANIEL
	Examiner	Art Unit
	Tracey Akpati	2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14,15 and 17-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14,15 and 17-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	5)☐ Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date _____.	6)☐ Other: _____.

DETAILED ACTION

1. Claims 1-12, 14-15, 17-21 are pending. This is an RCE filed 1/14/05.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Awadallah et al (6449251 B1) in view of Boden et al (6615357 B1) in further view of Stevens

(TCP/IP Illustrated).

With respect to Claim 1, the limitation:

"a network address translating gateway for detecting datagrams having process-specific

nontranslatable port addresses and passing said datagrams through the gateway without

translating their port addresses, said gateway connecting a LAN to an external network, said LAN

using local IP addresses, said gateway having a local IP address that can be referenced

by devices on said LAN and having an external IP address that can be referenced by

devices on said external network" is met by Awadallah on column 3, lines 57-59, 60-67;

column 3, lines 48-56; and on column 4, line 1-8; and

"a plurality of internal tables associating combinations of local IP addresses of local

devices on said LAN, external IP addresses of external devices on said external

network...source port addresses, destination port addresses, process-specific port

addresses, and maintaining a list of selected process-specific nontranslatable port addresses to which datagrams can be passed without translating port addresses" is met by Awadallah on column 4, lines 30-33, column 3, lines 48-56; and column 2, lines 26-29; and

"means for performing normal address translation upon datagrams passing from said LAN to said external network and datagrams passing from said external network to said LAN" is met by Awadallah on column 3, lines 61-64; and

"means for delivering a datagram from a local device on said LAN to an external device on said external network by receiving a datagram from a local device on said LAN intended for delivery to an external device on said external network, and determining whether the destination port address for said datagram is included in said list of selected process-specific nontranslatable port addresses if said destination port address is not included in said list of selected process-specific port addresses, performing normal address translation upon said datagram and passing said datagram to said external network for routing and delivery to said external device" by Awadallah on column 3, lines 48-56, 61-67 and column 4, lines 1-4. The attorney does not define the term 'process-specific port addresses' so the examiner makes the broadest, most reasonable interpretation of this term as port addresses that are reserved for a specific/particular process. Reserved port addresses meet the limitation of process-specific port addresses because these port addresses are reserved for a particular process.

Awadallah et al does not meet the limitation of SPI values neither does he meet the limitation of IP the routing procedure.

The SPI-In values, SPI-Out values referred to in the second limitation of Claim 1 is met by Boden on column 1, lines 55-59. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Boden within the system of Awadallah because SPI values are necessary parameters in a gateway managed by IPSec to be able to tell multiple connections that use the same protocol apart. The packets having a dynamic port number are not translatable but port swapped before routing to the next hop router. The combination of Awadallah et al and Boden et al does not disclose the IP routing procedure. This is disclosed by Stevens as discussed below. The limitation "and if said destination port address is included in said list of selected process-specific nontranslatable port addresses, determining whether said destination port address is bound to a local IP address, and if said destination port address is bound to a local IP address, performing normal address translation upon said datagram and passing said datagram to said external network" is met by Stevens on section 3.3, page 37-38, 1st paragraph; and

"and if said destination port address is not bound to a local IP address, passing said datagram through said gateway without translating said port addresses of said datagram, modifying said source IP address of said datagram to be said external 1P address of said gateway, binding said destination port address to the local IP address of said local device and creating an association between said destination port address and the external IP address of said external device, and passing said datagram to said external network for routing and delivery to said external device" is met by Stevens in Section 3.3, page 37-38, 1st paragraph.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Stevens within the combination of Awadallah and

Boden to obtain the claimed invention because the IP routing procedure is a basic routing

procedure performed by a router/gateway to a host that is either within a LAN or that

needs to be reached outside of the LAN though a router/gateway.

With respect to Claim 2, all the limitation is met by the combination of Awadallah and

Stevens except that described below.

The limitation "wherein the means for delivering a datagram from a local device on said

LAN to an external device further comprises a means for determining whether said

datagram is encrypted and, if said datagram is encrypted, for determining whether the

SPI of said datagram is recorded in the SPI - Out field in said internal table and, if said

SPI is recorded in said SPI - Out field, modifying the source IP address of said datagram

to be said external IP address of said gateway and passing said datagram to said external

network for routing and delivery to said external device" is met inherently by Boden on

column 1, lines 55-59 and column 3, lines 49-56. It is inherently met by Boden because

SPI (Security Parameter Index) is an index used within IPSec to keep multiple

connections distinct. If absent, the two connections to the same gateway using the same

protocol could not be told apart and hence is necessary for the correct functioning of the

gateway.

It would have been obvious to combine the teachings of Boden within the combination of

Awadallah et al and Stevens because the usage of SPI values forms a necessary part of

the IPsec protocol for routing packets through a gateway, or else the gateway would not

be able to tell multiple connections apart.

With respect to Claim 3, all the limitation is met by the combination of Awadallah et al and

Stevens except the limitation described below.

The limitation "if said SPI is not recorded in said SPI - Out field of said internal table, means for

setting the SPI - In field corresponding to the local IP address of said local device equal to zero

and setting said SPI – Out field equal to said SPI, modifying said source IP address of said

datagram to be said external IP address of said gateway and passing said datagram to said

external network for routing and delivery to said external device" is met inherently by Boden on

column 1, lines 55-59 and column 3, lines 49-56 and explained in Claim 2 rejection above.

It would have been obvious to combine the teachings of Boden within the combination of

Awadallah et al and Stevens because the usage of SPI values forms a necessary part of the IPsec

protocol for routing packets through a gateway, or else the gateway would not be able to tell

multiple connections apart.

With respect to Claim 4, the limitation "…and if said datagram is not encrypted,

determining whether the destination port address for said datagram is included in said

list of selected process-specific port nontranslatable addresses and, if said destination

port address is not included in said list of selected process-specific nontranslatable port

addresses, performing normal address translation upon said datagram and passing said

datagram to said LAN for delivery to said local device, and if said destination port

address is included in said list of process-specific port non translatable addresses..." is met by Awadallah on column 3, lines 48-56, 61-67, column 4, lines 1-4. The Awadallah does not meet the limitation involving SPI values. This is however met by Boden as discussed below.

The limitation "wherein the network address translating gateway further comprises means for delivering a datagram from said external device to said local device by receiving a datagram from said external device on said external network intended for delivery to said local device on said LAN, means for determining whether said datagram is encrypted and, if said datagram is encrypted, determining whether the datagram's SPI is recorded in said SPI - In field of said internal table and, if said SPI is recorded in said SPl – In field, modifying the destination IP address of said datagram to be said local IP address of said local device and passing said datagram to said LAN for routing and delivery to said local device, and if said SPI is not recorded in said SPI- In field of said internal table, determining whether said SPI is not recorded in said SPI - In field corresponding to said IP address of said external device is equal to zero, and if said SPI - In field is not equal to zero, discarding said datagram, and if said SPI - In field is equal to zero, setting said SPI - In field equal to said SPI, modifying the destination IP address of said datagram to be said local IP address of said local device and passing said datagram to said LAN for delivery to said local device..." is met by Boden on column 1, lines 55-59 and on column 3, lines 49-56. It would have been obvious to combine the teachings of Boden within the system of Awadallah because the use of SPI values is necessary to the correct operation of a gateway managing multiple connections.

The combination of Awadallah et al and Boden does not meet the limitation of the IP routing description disclosed below. This limitation is met by Stevens as shown below. The limitation "determining whether said destination port address is bound to a local IP address, and if said destination port address is not bound to a local IP address, discarding said datagram, and if said destination port address is bound to a local IP address, determining whether said destination port address is associated with the external IP address of said external device, and if said destination port address is associated with the external IP address of said external device, modifying said destination IP address of said datagram to be the bound local IP address of said local device, unbinding said destination port address from said local IP address, and passing said datagram to said LAN for delivery to said local device" is inherently met by Stevens on Section 3.3, page 37, 38, 1st paragraph. This is a routine process in IP routing as inherently shown by Stevens.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Stevens within the combination of Awadallah et al and Boden et al because the IP routing procedure is a basic routing procedure performed by a router/gateway to a host that is either within a LAN or that needs to be reached outside of the LAN.

With respect to Claim 5, the limitation "a timer, wherein, upon receiving a signal that a selected process-specific nontranslatable port address has become bound to an IP address, said timer will commence timing for a predetermined length of time and, upon the expiration of said predetermined length of time, will send a signal causing said selected

process-specific nontranslatable port address to become unbound from said IP address,

and, upon receiving a signal indicating that said selected process-specific nontranslatable

port address has become unbound from said IP address prior to the expiration of said

predetermined length of time, said timer will stop timing and will reset" is met by

Awadallah on column 6, lines 65-67, column 3, lines 48-56 and column 7, lines 1-4. The

attorney does not define the term 'process-specific nontranslatable port addresses' so the

examiner makes the broadest, most reasonable interpretation of this term as port

addresses that are reserved for a specific/particular process. Reserved port addresses

meet the limitation of process-specific port addresses because these port addresses are

reserved for a particular process.

With respect to Claim 6, the limitation "in which said external network is the internet" is met by

Awadallah on column 1, lines 29-31.

With respect to Claim 7, all the limitation is met by the combination of Awadallah and Stevens

except the limitation of the LAN being a VPN.

The limitation "in which said LAN is a virtual private network" is met by Boden on column 1,

lines 24-25.

It would have been obvious to combine the teachings of Boden within the combination of

Awadallah and Stevens because a VPN is a common and well-known form of implementing a

LAN.

With respect to Claim 19, the limitation of "wherein said list of selected process-specific

nontranslatable port addresses to which datagrams can be passed without translating their port

addresses comprises port 500" is met by Awadallah on column 5, lines 35-52 and on colun 3,

lines 48-56.

Claims 8, 10, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Awadallah et al (6449251 B1) in view of Stevens (TCP/IP Illustrated).

With respect to Claim 8, the limitation "maintaining a plurality of tables associating

local IP addresses of local devices on said LAN, external IP addresses of external

devices on said external network by passing datagrams having process-specific port

addresses to which datagrams can be passed without translating their port addresses, port

addresses of said local devices, port addresses of said external devices, SPI - In values,

SPI - Out values, and process-specific port addresses, and a list of selected process

specific port addresses" is met by Awadallah on column 2, lines 26-29, 62-64, column 3,

lines 48-56; and on column 4, lines 30-33.

The limitation "receiving a datagram from said LAN" is met by Awadallah on column 3,

lines 64-67 and column 4, lines 1-4.

The limitation "determining whether the destination port address for said datagram is

included in said list of selected process-specific port addresses and, if said destination

port address is not included in said table of reserved port addresses, performing normal

address translation upon said datagram and passing said datagram to said external

network for routing and delivery to said external device" is met by Awadallah on column

3, lines 61-67, column 4, lines 1-4. The attorney does not define the term 'process-specific port addresses' so the examiner makes the broadest, most reasonable interpretation of this term as port addresses that are reserved for a specific/particular process. Reserved port addresses meet the limitation of process-specific port addresses because these port addresses are reserved for a particular process.

Awadallah however does not meet the limitation disclosed below. This is however met by Stevens as discussed below.

The limitation "and if said destination port address is included in said list of selected process-specific port addresses, determining whether said destination port address is bound to an IP address, and if said destination port is bound to an IP address, performing normal address translation upon said datagram and passing said datagram to said external network, and if said destination port address is not bound to an IP address, passing said datagram through said gateway without translating the port addresses in said datagram, modifying said source IP address to be said external IP address for said external device, binding said destination port address to the local IP address of said local device and creating an association between said destination port address and said external IP address of said external device, and passing said datagram to said external network for routing and delivery to said external device" is met by Stevens on Section 3.3 on page 37-38, 1st paragraph.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Stevens within the system of Awadallah because

the IP routing procedure is a basic routing procedure performed by a router/gateway to a

host that is either within a LAN or that needs to be reached outside of the LAN.

With respect to Claim 10, the limitation is the reverse of Claim 8 and hence Claim 8

rejection stands for Claim 10. The added limitation of "...determining whether said

destination port address is associated with the external IP address of said external

device, and if said destination port address is associated with said external IP address of

said external device..." is also met by Stevens on Section 3.3, page 37, 38, 1st

paragraph. This is a routine process in IP routing is shown by Stevens.

With respect to Claim 18, the limitation "a machine readable storage, having stored

thereon a computer program comprising a plurality of code sections executable by a

machine and for connecting a LAN to an external network via a network address

translating gateway, said gateway having a local IP address that can be referenced by

devices on said LAN and having an external IP address that can be referenced by devices

on said external network, and further comprising a plurality of internal tables associating

combinations of local IP addresses of local devices on said LAN, external IP addresses of

external devices on said external network, source port addresses, destination port

addresses, process-specific port addresses, and a list of selected process-specific port

addresses, including at least port 500 for causing the machine..." is met by Awadallah et

al on column 2, lines 26-29, column 3, lines 48-56, 60-67, column 4, lines 1-8 and 30-33.

The added limitation of port 500 being used is met by Awadallah et al on column 5, lines

35-52. The attorney does not define the term 'process-specific port addresses' so the examiner makes the broadest, most reasonable interpretation of this term as port addresses that are reserved for a specific/particular process. Reserved port addresses meet the limitation of process-specific port addresses because these port addresses are reserved for a particular process.

The limitation "processing a datagram from a local device on said LAN by receiving a datagram from a local device on said LAN intended for delivery to an external device on said external network" is met by Awadallah on column 3, lines 60-67 and column 4, lines 1-2; and

The limitation "determining whether the destination port address for said datagram is included in said list of selected process-specific port addresses and determining whether said destination port address is bound to a local IP address on said LAN; and if said destination port address is not included in said list of selected process-specific port addresses, performing normal address translation upon said datagram and passing said datagram to said external network for routing and delivery to said external device" is met inherently by Awadallah et al on column 3, lines 61-67 and column 4, lines 1-4.

Awadallah et al however does not disclose the limitation discussed below. This however is met by Stevens as shown below.

The limitation "and if said destination port address is included in said list of selected process-specific port addresses, and said destination port address is bound to a local IP address, performing normal address translation upon said datagram and passing said datagram to said external network; and if said destination port address is not bound to a

local IP address on said LAN, modifying said source IP address of said datagram to be said external IP address of said gateway, binding said destination port address to the local IP address of said local device and creating an association between said destination port address and the external IP address of said external device, and passing said datagram to said external network for routing and delivery to said external device without translating said port addresses of said datagram" is met by Stevens on Section 3.3, page 37, 38, 1st paragraph.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Stevens within the system of Awadallah et al because the IP routing procedure is a basic routing procedure performed by a router/gateway to a host that is either within a LAN or that needs to be reached outside of the LAN.

With respect to Claim 20 and 21, the limitation of "in which said list of selected process-specific port addresses to which datagrams can be passed without translating their port addresses comprises port 500" is met by Awadallah on column 5, lines 35-52 and on column 3, lines 48-56.

Claims 9, 11, 12, 14, 15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awadallah et al (6449251 B1) in view of Stevens (TCP/IP Illustrated) in further view of Boden et al (6615357 B1).

With respect to Claim 9, all the limitation is met by the combination of Awadallah and Stevens except the limitation disclosed below.

The limitation "determining whether said datagram is encrypted and, if said datagram is encrypted, determining whether the SPI in said datagram is recorded in the SPI - Out field of one of said plurality of internal tables and, if said SPI is recorded in said SPI - Out field of said internal table, modifying the source IP address to be the external IP address of said gateway and passing said datagram to said external network for routing and delivery to said external device, and if said SPI is not recorded in said SPI - Out field of said internal table, setting said SPI - Out field corresponding to the IP address of said external device equal to said SPI and setting the SPI - In field of said internal table to zero, modifying said source IP address to be said external IP address of said gateway, and passing said datagram to said external network for routing and delivery to said external device" is met inherently by Boden on column 1, lines 55-59 and on column 3, lines 49-56.

It would have been obvious to one of ordinary skill in the art to combine the teachings of Boden within the combination of Awadallah and Stevens because the use of SPI values is necessary to the correct operation of a gateway managing multiple connections.

With respect to Claim 11, all the limitation is met by the combination of Awadallah et al and Stevens. The limitation disclosed below is met by Boden.

The limitation "determining whether the SPI in said datagram is recorded in the SPI - In field of one of said plurality of internal tables and, if said SPI is recorded in said SPI - In field of said internal table, modifying the destination IP address to be the local IP address of said local device and passing said datagram to said LAN for routing and delivery to said local device, and if said SPI is not recorded in said SPI - In field of said internal table, determining whether said SPI- In field corresponding to the IP address of said external device is zero, and if said SPI -In field is not zero, discarding said datagram, and if said SPI - In field is equal to zero, modifying said SPI - In field to be said SPI, modifying said destination IP address to be said local IP address of said local device, and passing said datagram to said LAN for routing and delivery to said local device" is inherently met by Boden in column 1, lines 55-59 and in column 3, lines 49-56.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Boden within the combination of Awadallah and Stevens because the use of SPI values is necessary to the correct operation of a gateway managing multiple connections.

With respect to Claim 12, the limitation "the steps of starting a timer whenever a selected process-specific port address becomes bound to said local IP address of said local device, CU resettling said timer whenever said destination port address has become released, and sending a signal whenever said timer is active and a

predetermined length of time has expired from the time said timer was started" is met by Awadallah et al on column 6, lines 65-67 and column 7, lines 1-4.

With respect to Claim 14, the limitation "in which said external network is the internet" is met by Awadallah on column 1, lines 29-31.

With respect to Claim 15 and 17, all the limitation is met by the combination of Awadallah and Stevens.

The limitation "in which said LAN is a virtual private network" is met by Boden on column 1, lines 24-25.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Boden within the combination of Awadallah and Stevens because a VPN is a well-known form of implementation of a LAN in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracey Akpati whose telephone number is 571-272-3846. The examiner can normally be reached on 8.30am-6.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

OTA

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